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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,820

01/26/2004

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8092/Y01

6886

41161 7590 05/01/2008

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EXAMINER

GREENHUT, CHARLES N

ART UNIT

PAPER NUMBER

3652

MAIL DATE

DELIVERY MODE

05/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/764,820	Applicant(s) RICE ET AL.	
	Examiner CHARLES N. GREENHUT	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,6-9,13,14,16 and 19-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6-9, 13, 14, 16, 19-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

I. Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/29/08 has been entered.

II. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim(s) 1, 3, 6-9, 13 and 29-32 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over WANG (US 5,035,389 A) in view of WIESMAN (US 1,182,610 A).

- 1.1. With respect to claim(s) 1, WANG discloses an overhead transfer flange (10) adapted to couple to a substrate carrier body (e.g., via screw holes Col. 2 Li. 37-38) and adapted to couple to a moving overhead carrier support in a direction of motion thereof (e.g., via ribs 11), the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 14-15), the third and forth sides having blades (11) extending in non-parallel paths between the first (top) and second (bottom) sides. WANG does not specify a particular angle between the blade and the plane defined by the first four sides. It is well known in the art that the angle formed between projecting blades and a plane defined by the first

four sides of a trapezoidal coupling mechanism may be varied, as demonstrated, for example, by WIESMAN, which teaches varying the angle (cf. Figs. 1-9 and 10-14) of such blades. Making the angle oblique is the result of choosing from a finite number of identified predictable solutions with a reasonable expectation of success and therefore would have been obvious to one having ordinary skill in the art.

1.2. With respect to claim(s) 3, 6-8, 13 WANG additionally discloses, about 60° (Fig. 12) a blunted (e.g., at 111) and radiused (e.g., at 112) edge that is angled.

1.3. With respect to claim(s) 9, WANG discloses a substrate carrier body (5) adapted to support one or more substrates, an overhead transfer flange (10) coupled to the substrate carrier body (e.g., via ribs 11) and adapted to couple to a moving overhead carrier support in a direction of motion thereof (e.g., via screw holes Col. 2 Li. 37-38), the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 14-15), the third and forth sides having blades (11) extending in non-parallel paths between the first (top) and second (bottom) sides. WANG does not specify a particular angle between the blade and the plane defined by the first four sides. It is well known in the art that the angle formed between projecting blades and a plane defined by the first four sides of a trapezoidal coupling mechanism may be varied, as demonstrated, for example, by WIESMAN, which teaches varying the angle (cf. Figs. 1-9 and 10-14) of such blades. Making the angle oblique is the result of choosing from a finite number of identified predictable solutions with a reasonable expectation of success and therefore would have been obvious to one having ordinary skill in the art.

- 1.4. With respect to claim(s) 29, WANG discloses an overhead transfer flange (10) adapted to couple to a substrate carrier body (e.g., via screw holes Col. 2 Li. 37-38) and adapted to couple to a moving overhead carrier support (20) in a direction of motion thereof (e.g., via ribs 11), the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 14-15), the third and forth sides having blades (11) extending in non-parallel paths between the first (top) and second (bottom) sides engaging supporting features (22) of a carrier support (20).
- 1.5. With respect to claim(s) 30-32, as best understood by Examiner, WANG additionally discloses a window that narrows in a direction of motion of the carrier support, and the flange adapted to decouple upon an impact, and a chevron (111').
2. Claim(s) 14, 16, 19, 21-24 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES (US 2,588,009 A) in view of WIESMAN (US 1,182,610 A).
- 2.1. With respect to claim(s) 14, 19, 21-23, JONES discloses an overhead carrier support (6) adapted to couple to and support a substrate carrier (shown coupled to the wall which is shown carrying substrate 1) while in motion via an overhead transfer flange (shown coupled via flange 9), the overhead carrier support having a first and wider second side, a third and forth side extending therebetween (trapezoidal shape - Col. 1 Li. 51-52), the third and fourth sides are angled and have channels (7/8) extending in non-parallel paths from the first to second sides. JONES does not specify a particular angle between the channel and the plane defined by the first four sides. It is well known in the art that the angle formed between a channel and a plane defined by the

first four sides of a trapezoidal coupling mechanism may be varied, as demonstrated, for example, by WIESMAN, which teaches varying the angle (cf. Figs. 1-9 and 10-14) of such channels. Making the angle oblique is the result of choosing from a finite number of identified predictable solutions with a reasonable expectation of success and therefore would have been obvious to one having ordinary skill in the art.

2.2. Claim(s) 16 is/are rejected under 35 U.S.C. 102(b) as being anticipated by JONES or in the alternative by JONES in view of WANG as discussed below. With respect to claim(s) 16 JONES additionally discloses an angle about 60°.

2.3. With respect to claim(s) 24, JONES discloses providing a substrate carrier having a body (3/4) adapted to support a substrate (shown supporting substrate 1), an overhead transfer flange (9) coupled to the carrier body (Fig. 3), adapted to couple with an overhead carrier support (e.g., via 10/11) in a direction of motion thereof, the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 5-6), the third and forth sides having blades (10/11) extending in non-parallel paths between the first and second sides, an overhead carrier support (6), adapted to suspend a substrate carrier (3/\$) via the overhead transfer flange (9), the overhead carrier support having a first and wider second side, a third and forth side extending therebetween (trapezoidal shape - Col. 1 Li. 51-52) adapted to receive the respective third and fourth side of the flange, and coupling the flange and support to support the substrate carrier (Fig. 3). JONES does not specify a particular angle between the blade and the plane defined by the first four sides. It is well known in the art that the angle formed between projecting blades and

a plane defined by the first four sides of a trapezoidal coupling mechanism may be varied, as demonstrated, for example, by WIESMAN, which teaches varying the angle (cf. Figs. 1-9 and 10-14) of such blades. Making the angle oblique is the result of choosing from a finite number of identified predictable solutions with a reasonable expectation of success and therefore would have been obvious to one having ordinary skill in the art.

3. Claim(s) 16, 20 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES in view of WIESMAN and further in view of WANG

3.1. With respect to claim(s) 16, 20, JONES does not specify a specific angle between the third and fourth side. It is well-known that the wedge angle may be of varying degree, for example about 60° (See e.g., WANG Fig. 12). Choosing a particular angle is the result of choosing from a finite number of identified predictable solutions. It would have been obvious to one having ordinary skill in the art to make and orient the third and forth side of JONES at the appropriate angle based on the desired degree of wedge force and misalignment compensation.

4. Claim(s) 25-26 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES in view of WIESMAN and further in view of STROMBERG (US 2,008,087 A).

4.1. With respect to claim(s) 25, JONES additionally discloses raising a top of the flange (9) above a bottom of the support (6). JONES fails to disclose lowering the flange into engagement with the support. This limitation is not met simply because JONES reverses the fixed and stationary parts. It is well-known that the interlocking components of wedge like couplings may be reversed so that the carrier portion is

fixed while the flange moves. For example, STROMBERG discloses lowering the flange (14) into the carrier (15). It would have been obvious to one having ordinary skill in the art to modify JONES with the flange/carrier movement of STROMBERG based on which parts are better suited for movement.

4.2. With respect to claim(s) 26, JONES additionally discloses a footprint of the flange overlapping a footprint of the carrier

5. Claim(s) 27-28 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES in view of WIESMAN and further in view of PERLOV (US 6,283,692 B1).

5.1. With respect to claim(s) 27-28, JONES fails to teach the coupling member (6)/(9) used in conjunction with an overhead conveyor or storage shelf. It is well-known in the art complimentary flange and carrier coupling members may be used in conjunction with an overhead conveyor and storage rack. For example, PERLOV teaches a flange (116) engaged by a complimentary carrier (72) coupled to an overhead conveyor (56) which is coupled to a storage shelf (58). It would have been obvious to one having ordinary skill in the art to employ the coupling components of JONES on the conveyor and shelves of PERLOV in order to compensate for misalignments during engagement of the flange and carrier.

III. Response to Applicant's Arguments

Applicant's arguments entered 2/29/08 have been fully considered.

1. Applicant argues that claims 1, 9, 14 and 24 are not anticipated by WANG or JONES because of the limitations added by the present amendment. This argument is persuasive. Upon further consideration, however, new grounds for rejection are presented hereinabove.

Art Unit: 3652

IV. Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles N. Greenhut whose telephone number is (571) 272-1517. The examiner can normally be reached on 7:30am - 4:00pm EST.
2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached at (571) 272-7097. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.
3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CG

/C. N. G./

Examiner, Art Unit 3652

/Saúl J. Rodríguez/

Supervisory Patent Examiner, Art Unit 3652